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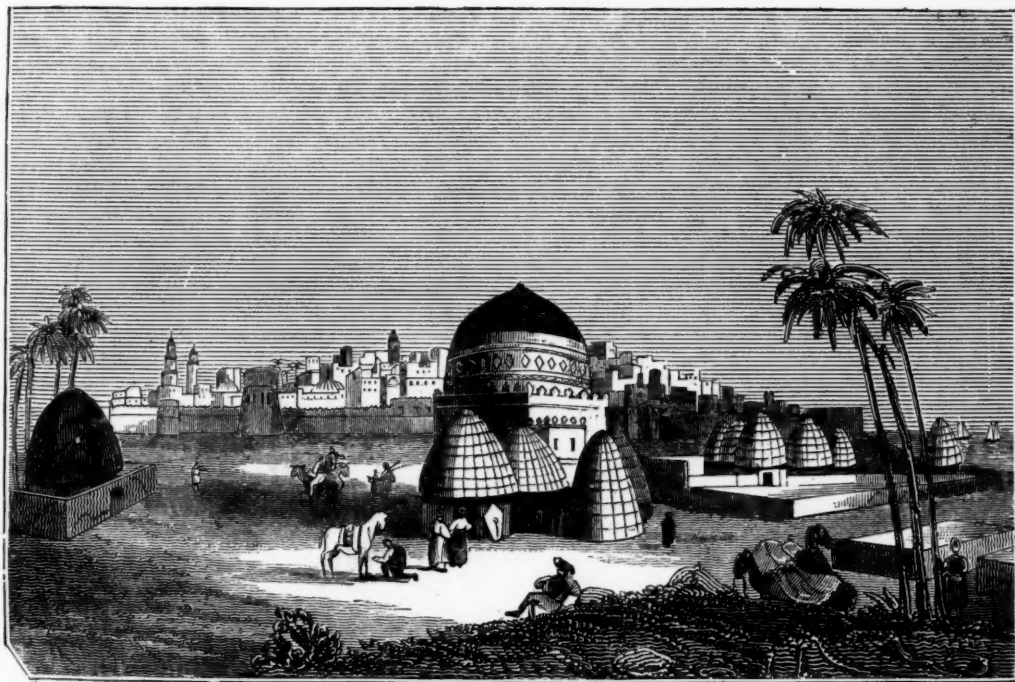
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THE TOWN AND PORT OF MOCHA.



VIEW OF MOCHA.

THE Arabian town of Mocha is the principal port frequented by Europeans in the Red Sea. In our minds the name of this place is inseparably associated with the idea of the commodity which forms its chief article of export; and though there may possibly be some who are ignorant of the existence or locality of such a town, there must be very few, indeed, who have not heard of the famous coffee on which it has bestowed its name.

That spacious peninsula which is comprised under the general appellation of Arabia, has been usually divided into three portions, to which have been applied the epithets of the *Stony*, the *Sandy* or *Desert*, and the *Happy*, in illustration of the physical peculiarities by which they are respectively distinguished. The last division includes the high lands which border on the Indian Ocean, and are remarkable for their superior climate and fertility; it is the *Arabia Felix* of the Latins, and it contains the modern kingdoms, or imitates, of Muscat and Yemen. Within the latter of these Mocha is situated, and in that part of it which is styled the Tehama,—a level country displaying none of those natural advantages, which, exaggerated by contrast with the sterility of the rest of the peninsula, have gained for the “happy” portion of it so flattering an appellation. Mocha is not far removed from the south-western point of the Arabian coast, or, in other words, from the southern extremity of the Red Sea; it stands, indeed, only forty miles to the north

of the straits which connect that long narrow gulf with the more extended waters of the sea of Bab-el-Mandeb, or the Indian Ocean.

The traveller Niebuhr says, that Mocha is decidedly one of the new towns of the Tehama, and that its origin cannot be referred to an earlier period than the fourteenth century. Its reputed founder is a certain *sheik*, (a title of honour assumed by “a swarm of the genuine or fictitious descendants” of Mohammed, and his son-in-law the Caliph Ali,) who in that age led the solitary life of a hermit near the site of the town, and gained so wide a reputation for superior sanctity, that his Mohammedan brethren were in the habit of flocking to his cell from distant countries, to gather from his lips the lessons of wisdom. It happened one day, according to the tradition of the country, that an Indian vessel bound to the port of Djidda, on the Red Sea, anchored in the roadstead of Mocha; and the crew, espying the dwelling of the hermit, were induced by curiosity to visit the shore. The Sheik Schadeli (for such was the name of the recluse,) received them most graciously, and regaled them with coffee; the novel beverage was pleasing to the palates of the strangers, and the old man entertained them while they drank, with a catalogue of its many excellent virtues. The propriety of testing their efficacy upon the person of the Indian captain, who just then happened to be ill, was instantly suggested; and the Sheik assured his visitors, that with

the aid of his prayers the use of the coffee would bring about a speedy restoration of health. He moreover told them that if they chose to disembark their merchandise, they would realize a considerable profit; and further he prophesied that at some future day there would arise on that spot a commercial city which should afford to the Indians a favourable market for a large portion of their goods. The rest of the story is, of course, as it should be; the master went on shore the next day, drank some of the Sheik's coffee, and got quite well; a particularly large number of Arabians happened to pay their visits that day, and very obligingly took the whole cargo off his hands. The reputation of the hermit increased, and a village arose by degrees around his humble dwelling; more ships resorted to so excellent a market, and the Sheik's prediction was at length accomplished by the establishment of a commercial town.

Whatever the Sheik Schadeli may have had to do with the foundation of Mocha, he was undoubtedly a personage of importance in the time that he lived; his name is still venerated by the inhabitants, who regard him as their local patron. Over his tomb rises the principal mosque of the town; and besides this edifice, both the chief gate of entrance, and the well from which the common people derive their ordinary supply of water, are called after him. His descendants, among other marks of honour, are all called Sheiks; and it is by him that the Mohammedans of Mocha ordinarily swear. In this respect the depth of their veneration is curious; Niebuhr tells us that the man on whom little trust could be placed while he supported his affirmation by an ordinary oath, may be safely relied on when he calls to witness the name of Schadeli, whose mosque and tomb are before his eyes. But besides these local honours the Sheik enjoys the more general distinction of being the patron of all Mohammedan coffee-dealers of the Soonce, or Turkish sect*; it is said that they remember him every morning in their prayers, but as Niebuhr observes, it is not certain that they invoke him, though they do return thanks to God for having taught the human race the use of coffee through the mediation of Sheik Schadeli, and implore him consequently to be favourable to the Sheik and his descendants.

The territory of Yemen was conquered by the Turks in the sixteenth century; and among other considerable cities Mocha fell under their dominion. It remained in their possession longer than any other city in Yemen; and it is said that the Arabs were at last only able to obtain it by purchase instead of by force of arms. The first voyage from Europe to Mocha was made by the Portuguese in 1513; and in the beginning of the following century, when the Red Sea was first visited by the English, under Captain Alexander Sharpey, of the *Ascension* (1609), Mocha had become a great mart for the trade between India and Egypt. The Turkish governor was courteous and liberal, and allowed our countrymen to traffic without molestation; but the succeeding Pasha was a man of a very different character, as Admiral Sir Hugh Middleton, who was sent by the East India Company on a trading voyage in the following year, experienced to his cost. Captain Saris with a small expedition, arrived in the course of the next year, and was treated with more civility; but he found the spirit of fanatical antipathy too strong to admit of the renewal of the trade. The French had already

obtained a treaty of commerce and the establishment of a factory in 1608, previous to which time the only foreign settlement in the town belonged to the Dutch. It was not till the year 1618 that the English gained a fixed footing; Captain Shilling of the *Royal Anne*, in that year obtained a firman from the Iman and the governor of Mocha, granting to the English "on the faith of the prophet's beard, liberty to sell and buy without let or molestation, in that or any other port within their dominions." Twenty years afterwards the French bombarded the town in consequence of the refusal of the *dowlah*, or Arab governor, to liquidate the debt which he had contracted in the purchase of goods for his master the Iman, residing at the capital Senna in the interior. Not many years ago it was similarly attacked by an English squadron from Bombay.

Mocha is generally made a station in the route from India to Europe by the Red Sea and Egypt. The approach to it through the straits which form the entrance into the Red Sea is interesting,—“those dreadful straits,” to use the words of a lady who passed through them, Mrs. Colonel Elwood, “which from time immemorial have filled the heart of the wandering mariner with fear and dismay, and which have acquired for themselves the melancholy but poetical title of Bab-el-Mandeb, or *the Gate of Tears*, from the dismal end which there too frequently awaits the ill-fated bark. The result of sad experience and a highly fanciful imagination lead the superstitious Arabs to believe that the genius of the coming storm loves there to station himself and to insnare the unhappy voyager, or, perched upon Cape Guardafui, there to enjoy the sight of the misery he has occasioned.” The appearance of these straits has given rise to the supposition that at this point the continents of Africa and Asia were once connected, as they now are at the northern end of the Red Sea, by the isthmus of Suez. A rush of the waters would seem to have divided a bed of hard black rock, and thus to have forced for itself a channel two or three miles in breadth; but Niebuhr declares himself unable to say that the appearances fully justify the supposition, which, if well founded, would, as our readers must perceive, convert the Red Sea of former days into a lake. The rock rises on each side of the strait, black, barren, and cheerless; and “while surveying this desolate spot,” says Mrs. Lushington, “I learnt that the left shore was the island of Perin, where, during the expedition of the Indian army into Egypt (under Lord Hutchinson at the time of the French invasion), a detachment was encamped. No station could possibly be more dreary, in some places a few blades of grass endeavoured to force themselves through the crevices of the rock; but even fresh water was brought from the Abyssinian shore, the scarcity of this most necessary article being thus added to many other privations.”

Mocha is built on the margin of a dry sandy plain of remarkable sterility; it stands close to the sea-shore in the hollow of a small bay formed by two projecting points of land. On each of these is a sort of tower, or castle as it is styled; the northern one was greatly injured by the fire of the Bombay squadron,—that on the south is small, and bears the everlasting name of Sheik Schadeli. The bay is not deep enough for large vessels, which are obliged to anchor in the open roadstead at the distance of about two miles from the shore; coral and sand banks also prevent a near approach, and the strong winds which are always blowing render the passage to and from the town very arduous, if not dangerous. The appearance of Mocha from the sea is

* For an account of the difference between this and the Shiah, or Persian sect of Mohammedans, see *Saturday Magazine*, Vol. V., p. 165.

imposing; the buildings, of one unvaried white, give it the semblance of being excavated from a quarry of marble, and contrast strikingly with the dark-blue waters, out of which it seems to rise. A near approach destroys the illusion, and discloses many plastered and whitewashed houses, which are enabled, from the scarcity of rain, to preserve a lustrous freshness, that would speedily disappear under the influence of one good tropical shower. The town is encircled with a loop-holed wall, and in the opinion of the Arabs may be deemed fortified; the defences certainly wear a formidable appearance at a distance, but sink very much in estimation on a close inspection. They are rudely built, and ready to fall on a first discharge of the few cannon on the battlements.

On entering within these walls the stranger is impressed with feelings very different from those which he experienced when gazing from a distance upon the town; he finds it, to use the language of a rather severe judge, "irregularly planned, filthy in the extreme, being never swept or cleaned, and unadorned with any building, public or private, capable of arresting the traveller's attention." The streets are narrow and unpaved; the houses are very lofty, and the material of which they are built is generally coral stone, but in some cases sun-burnt brick, plastered and whitewashed. Their sides are studded with loop-holes, and projecting windows irregularly disposed; the façades and cornices are decorated with arabesque and fret-work in every fantastic variety of shape, and the balconies with beautiful specimens of carved wood-work. The flat roofs serve the purpose of terraces; they are often surmounted by little turrets, whose light airy appearance agreeably diversifies the square solid uniformity of the buildings. This description, however, does not apply to the houses inhabited by the lower classes of the population; these are nothing but circular huts of wicker-work, covered inside with mats and sometimes on the outside with a little clay. The roofs are uniformly thatched, and in front of each dwelling is a small area or yard fenced off. The people are said to have a strong fancy for crowding their huts together in clusters, so that even within the walls there is a large space left unoccupied, although the whole surface of the town is not too extended for its population. The principal buildings, consisting chiefly of those devoted to public purposes, all face the sea. The British factory, or the Residency, as it is called, is a large lofty structure, built in the Arabian style, and fitted up after the English fashion; the terrace on its summit affords an excellent view of the town and its neighbourhood. The mosques, with their tall elegant minarets, are spoken of as extremely handsome, particularly that one of them which is called after Sheik Schadeli.

Without the walls, on the land side, are three small villages, or suburbs, inhabited respectively by the Jews, the Abyssinians, and the Bedouin labourers; they are simply collections of thatched conical-shaped huts "looking like so many bee-hives,"—such as we have already described. "The Jew is looked upon at Mocha," says the author of *Scenes and Impressions*, "with an evil eye; suffering is here the badge of their poor tribe; the Arab may spit upon and strike them; they are not allowed to wear a turban. They gain a livelihood by working as goldsmiths and jewellers, but it is said, and I believe truly, that they have private stills, and retail spirits to the less orthodox Mussulmans." The Abyssinians are mariners and traders, engaged in the business of supplying Mocha with grain, vegetables, wood, sheep, &c.; and by their agency a considerable intercourse is kept up

with Massuah on the African side of the Red Sea. This connexion is of great importance to the Arabian town, on account of the sterility of the surrounding country; "the neighbourhood is void of trees, excepting a small stunted date-grove to the south of the town, and even the grass for the few cattle of the place is brought from a distance, there not being the slightest verdure visible near the walls." The parched plain at the back of the town extends to the mountains which rise at a little distance in the interior; the only relief to the unvarying picture of brown and desolate sterility is the date-grove above mentioned, which extends for nearly two miles along the southern shore, and is rendered, indeed, by the very force of contrast a doubly pleasing object for the eye to repose upon. The few wells that are scattered over this surface, yield only a brackish and unwholesome liquid, which none but the poorest inhabitants will submit to use; the water which supplies the people of Mocha, or at least those of them who can afford to pay for it, is brought from Musa, an inland town twenty miles distant.

The population of Mocha is variously estimated. Lord Valentia thought that it did not exceed 5000, and some French travellers have carried it up to twice that number; Mr. Macculloch says that it may, perhaps, amount to between 5000 and 7000. Its character is very motley; of oriental nations alone the streets usually present a strange mixture. The natives of Abyssinia are constantly there, with their tall upright slender figures, intelligent countenances, fine features, and peculiarly sparkling and vivacious eyes,—their hair arranged and dyed with the utmost care, so as to impart a sort of foppish air to their appearance. Besides the Abyssinian dandies, there are to be seen the Banians of India with their singular turbans,—the wild-looking Bedouin of the desert armed cap-a-pie,—the more civilized Arab of the town—the peaceful looking Hindoo with his silk trousers and snow-white vest,—and occasionally the magnificent Turk with his splendid handsome and cumbersome attire. "Here," says Mrs. Colonel Ellwood, "I first saw the light, the elegant, and the beautiful gazelle running about the streets, playfully attempting to butt us as we passed, also what is termed in India the Brahminee bull, with the hunch on his shoulders; and we sometimes met the Dowlah's horses exercising, among which were some of the high caste Nedjedy breed, and which, when compared with our English steeds, are small, light, and active, and there were also some of the strong heavy and ponderous Dongola species."

The great article of export from Mocha is coffee, which is universally admitted to be of the finest quality; it is grown at some distance in the interior, in the sheltered and secluded valleys of the "happy" region, whence it is brought down to this port upon the backs of camels. "It is not possible," says Mr. Macculloch, "to form any accurate estimate of the quantity exported; but we believe it may be taken at 4000 tons, or perhaps more." The greater part is sent to Djidda and Suez, for the supply of Egypt and Turkey; but there is a considerable export to Bombay and other parts of India, whence some finds its way to Europe: occasionally, however, the exports from Mocha direct for Europe are very large. There is not much of the bean consumed at Mocha itself; the Arabs, either from economy or preference, generally use an infusion made from the husk, and Mrs. Lushington says, that judging from the indifferent specimen of the coffee made from the bean which she tasted at the Residency, this latter method of preparing it must be rare even among the higher

classes. The same writer observes, that every Arab lady, when she visits, carries on her arm a little bag of coffee; this is boiled at the house where she spends the evening, and thus she is enabled to enjoy society without putting her friend to expense. The coffee-houses in the town are places of great resort; there may be seen at all hours, groups of townsmen and traders reclining on couches of the date-leaf, under the shelter of wide-spread awnings, and exhibiting an unwearied perseverance in stroking their long beards, sipping their *kishu*, or husk-made coffee, and smoking their little hookahs, with bowls of polished cocoa-nut, and ornaments of brass-work.

Besides coffee, the principal articles of export from Mocha are dates, myrrh, gum Arabic, tragacanth, olibanum, (or incense,) senna, balm of Gilead, aloes, the medicinal herb, sagapenum, sharks' fins, horns and hides of the rhinoceros, together with ivory, gold dust, and civet, which are brought from the opposite coast of Abyssinia; the imports are chiefly rice, piece-goods, iron and hardware. The greater part of the foreign trade of Mocha is in the hands of the Banians; "and it is much safer," says Mr. Macculloch, "to deal with them than with either Turks or Arabs." Niebuhr emphatically warns the trader arriving at Mocha to be on his guard against the Mohammedans, and recommends him to have recourse as the English and French do, to the Banians, among whom, he says, are many considerable merchants of great probity. "Here," to use his words, "we can more easily rely on a Pagan than on a Mohammedan. The Mohammedan merchants in all countries are base enough in spirit to irritate the Christians whom they have duped, and endeavour to provoke them to the use of angry invective; it is then their practice to raise a great clamour, and under the pretext that the Mohammedan religion has been reviled, to threaten to have the Christians carried before the magistrate, an inconvenience which many pay large sums to avoid."

The Dowlah of Mocha is an unimportant personage; "the reader who might attach to the station and rank of governor a something of dignity and freedom," observes Captain Sherer, "will learn with a smile that the Dowlah of Mocha is a black Abyssinian slave, not at all striking in his appearance, or in any way remarkable." He had been a slave in the family of the Iman at Senna; his dependence was still complete, for he did not possess the power of life and death, or of engaging in hostilities without previously applying to his master. Mrs. Lushington likens his appearance "to that of a fat native of Bengal," and another writer describes him as mean-looking, and living in a dirty jail-like house; but all agree in representing him as civil, and even polite. He has a garrison under his command of about eighty horse and two hundred matchlock men, with just as much discipline as Arab troops usually have; they mount guard at the different gates, and when upon duty, generally recline upon couches with their matchlocks lying negligently by their side, the never-failing pipe in their mouths, and a cup of coffee within reach of hand. They attend the Dowlah on his weekly visits to the mosque, on which occasions both the governor and his guards are seen to the best advantage.

Our engraving is a view of Mocha from the land-side. Immediately in the fore-ground on the left is the Arab village; and on the right is seen the English burial-ground, walled in and secured by a gate. Few of our countrymen are interred there.

POISONOUS VEGETABLES. No. IV.



THE COMMON THORN-APPLE, (*Datura stramonium*.)

THE Stramonium is found in tolerable abundance in most European countries, but is supposed originally to have been brought from America; this, however, has not been well ascertained. Its strong herbaceous stem, which supports numerous branches, rises to the height of about two feet; its blossoms are large and white, or partially tinged with a violet-colour. It remains in bloom during the greater part of the Summer, and is far from being an inelegant plant, but its scent is extremely unpleasant.

Every part of this plant has a bitter and disagreeable taste, and its poisonous properties are attested in various ways; its smell will produce head-ach and giddiness; the seed-pods and the seeds themselves are said to be as dangerous as the roots and leaves.

The effects produced by this deleterious shrub are, a burning thirst, a suffocating sensation, pains at the heart, and a kind of drunkenness, sometimes accompanied by violent gesticulations and actions, approaching to madness. These effects will last for ten or twelve hours, and sometimes longer; and where the dose has been large, death has sometimes taken place.

The sufferers by this poison, even when partially restored to health, have to endure, for a considerable time afterwards, a loss of memory and extreme weakness; and a trembling of the limbs has lasted for months, and in some cases, years. The infusion of the seeds of stramonium in wine, produces an effect somewhat analogous to that of large doses of opium; and it is employed by the Turks for the same purpose,—to produce a temporary forgetfulness; "as if the reason of man was a burden of which he longed

to relieve himself, at least for a few moments. But although this deleterious shrub at times causes agreeable reveries, it not unfrequently produces a temporary madness."

A story is related of two canary-birds dying from the effects of the effluvia which proceeded from one of these plants, near which their cage was hung during the night.

Like all other vegetable productions, that produce powerful effects, stramonium has been used in medicine, but never with any decided advantage; the dangerous nature of the remedy counterbalancing any doubtful good that was produced.

In some parts of South America, where this plant grows wild, the natives, in certain cases, drink a decoction of the leaves, which produces such violent effects as to cause them to fall into a state nearly resembling death, and lasting frequently two or three days. It is generally administered in very severe cases of illness; but the oddest part of the story is, that it is not given to the sick person, but to his nearest relation, who devotes himself in this manner for the purpose of discovering, during his sleep, the sorcerer who has caused the disease; for it is their firm belief that all diseases are inflicted by a being of this description, to whom they give the name of *mohane*, or *agoréro*; and that he has the power of curing as well as inflicting the malady.

As soon as the party who has taken the poison returns to his senses, he describes the sorcerer he has seen in his dream, and the whole family immediately endeavour to discover to what person the description bears a resemblance; when this point is settled, they seek him out, and oblige him to undertake the cure of the sick person. If, while this preliminary business is going on, the patient should die, the imaginary conjuror runs great risk of losing his life by the hands of some of the deceased's relations.

When the dream has produced no result, they oblige the first *mohane* they meet to undertake the office of physician.

In England, the root and the seed-pod of the stramonium is frequently smoked in a pipe, to relieve a fit of the asthma.

There are as many as nine or ten species of the *Datura*, not, however, equally poisonous with that we have described. Two of these have been cultivated in England,—namely, the *Datura fastuosa*, or purple thorn-apple from the East Indies, which is cultivated in hot-houses for the sake of the flowers, which are handsome and fragrant, of a purple colour without, and white within; and the *Datura arborea*, or tree thorn-apple, which is a magnificent species, a native of Peru and Chili, whose white flowers expand only at night, when they are very fragrant. Each of these blossoms is often two feet in length, and as many as one hundred and fifty have been seen at one time on a single tree.

RECOLLECTIONS of former mercies is the proper antidote against a temptation to despair in the day of calamity; and as, in the divine dispensations, which are always uniform and like themselves, whatever has happened happens again when the circumstances are similar, the experience of ancient times is to be called in to our aid, and duly consulted. Nay, we may remember the time, when we ourselves were led to compose and utter a song of joy and triumph, on occasion of signal mercies vouchsafed to us. Upon these topics we should, in the night of affliction, commune with our own hearts and make diligent search, as Daniel did in Babylon, into the cause, the nature, and the probable continuance of our troubles, with the proper methods of shortening and bringing them to an end, by suffering them to have their intended and full effect, in a sincere repentance and thorough reformation.—BISHOP HORNE.

THE USEFUL ARTS. No. XXVII.

THE COD-FISHERY.—THE STURGEON FISHERY.

ACCORDING to the arrangement proposed in the twenty-first number of these papers, we should now have to describe the mode of taking *aquatic animals*, or what is termed *fishery*; but as the method of taking most fish for food is essentially the same, we need only refer to the accounts given of the Mackerel*, Herring†, and Pilchard‡ fisheries in former papers of the *Magazine*, from which that of other species will be sufficiently understood.

On some occasions, instead of employing the net, fish are *spear*ed,—a mode of chase resorted to on tranquil lakes or streams, by savages in North America, and by civilized nations, occasionally as a sport. This proceeding always takes place by night: two persons go out in a canoe or light boat which one manages, propelling it in any direction according to the signs made by his companion, for perfect silence is indispensable, to avoid alarming the fish. The hunter, as he may be called, stands at the head of the vessel, which carries a light iron frame-work projecting from it, on which some straw or small brushwood is laid and lighted, the glare of which reflected from the silvery skin of the animal, as it floats at rest in the dark water, enables the man to aim at it with certainty; and those accustomed to the sport, know what allowance to make for the refractive power of the liquid, and direct their weapon accordingly. Of course, it is only the larger species, such as salmon, &c., that can be successfully pursued in this manner.

Singular as this mode of fishing appears, it yields in that respect to another practised on the coasts of Scotland and England in certain localities; this may be called *salmon-hunting*. When the tide is out, the fish are often left in the shallow pools which remain in the sands at the mouths of rivers, the presence of the fish is detected by the ripple, and the hunter, armed with a light, barbed spear, fifteen feet in length, mounts a horse, which he rides into the water up to his saddle-girths; he can thus overtake the fish, and dropping his rein, he strikes his spear into them; he then brings the fish to the surface, and pushes it before him to shore without dismounting.

There is one fishery which, from its great importance in every point of view, merits a distinct notice, more especially as it will give an insight into some peculiarities attending the mode of obtaining and preserving this kind of food, which in our other accounts we have not been able to describe. We mean the Cod-fishery of Newfoundland; and in order to understand the peculiar economy of the proceedings, we must briefly describe the locality.

The island of Newfoundland is a barren rock, with its bold and craggy coast indented by deep bays, admirably adapted for sheltering vessels, and affording abundance of spring water. Though not situated in a higher latitude than that of our own island, it partakes of the effects which render the climate of North America so much more severe than that of countries on corresponding parallels in the old world. During Winter, the whole island is ice-bound; the frost is intense; and even when the atmosphere is tranquil, the air is loaded with *frost-smokes*, or vapours which penetrate every apartment, and increase the discomfort of the season. Storms of sleet and snow are of constant occurrence; and the short sultry summer of two or three months' duration, succeeds, without any intermediate Spring, to the rigours of Winter, and yields again to its return without the intervention of an Autumn. When the frost begins to retire before the increasing powers of the sun, the thawing takes place so rapidly that the country is inundated with torrents, making their way to the sea, while the ice-fields, descending from the higher latitudes, surround the coast, and by their collision, produce a tumult in the agitated ocean, which is described as appalling.

During the greater part of the year, the island is enveloped in perpetual vapours, so that all vessels navigating in its immediate neighbourhood, are compelled to ring bells constantly to prevent their running foul of one another; and guns are fired every half hour from the fortress of St. John's at Conception Bay, to serve as signals to warn ships of the proximity of the rocks; light-houses or signal-marks being unavailable§.

* See *Saturday Magazine*, Vol. VII., p. 69.

† *Ibid.*, Vol. VII., p. 170, 174, 252.

‡ *Ibid.*, Vol. III., p. 217.

§ *Ibid.*, Vol. III., p. 39.

The southern, and south-eastern, are the only inhabited parts of the island; and the settlers depend principally on the fisheries for their support, the unfavourable climate preventing almost all cultivation of the soil. Oats even seldom arrive at perfection, so that with the exception of a few raised by artificial heat, potatoes are the sole vegetables on which the people can depend*.

The *Great Bank* is an extensive shoal lying to the south-east of the island, measuring upwards of 330 miles in length, and about 75 in width, the water varying in depth from fifteen to sixty fathoms. Over the whole of this space, but more especially on the southern portion, Cod abounds in such countless numbers, and endowed with such fecundity, that although the fishery has now been prosecuted for some hundreds of years, and although many millions are caught annually, there appears no diminution of their numbers†.

The season for the fishery commences about March, and continues till August. Each vessel, as she arrives at the island, takes her station opposite any unoccupied part of the beach which may afford a convenient situation for the curing of the fish. The first proceeding is to unrig and take down the upper masts. &c., of the vessel, and to erect or prepare the *stage* on shore. This is a covered platform projecting over the water, strongly built, and guarded with piles to prevent injury from the boats. On the stage is a large firm table, on which all the processes to be hereafter described are performed.

The fishing is carried on by lugger-boats, containing from two to four persons, according to circumstances. Sometimes the crew consists of females or boys only, provided they are strong enough to handle the line. Each person manages two, and each line carries two hooks; so that if there are four men in the boat, which is usually the case, there are sixteen baits out. The bait varies during the progress of the season: at first, the entrails of fish, or even flesh of sea-fowls, is employed, and then in succession herrings, capelins, or young cod-fry. Good hands will take from three to four hundred fish in a day; but it is severe labour, from the weight of the fish, and the extreme cold felt in such an exposed situation.

The boats take their station on the edge of the shoal, and the lines being baited, are thrown out. As soon as the line is seen to be pulled tight, the man who watches it draws it in; and if the fish be large, he uses a hook, fastened to the end of a pole, to assist him in *landing* the prey. When a sufficient load has been taken, it is carried to the stage; for if the fish were kept too long unopened, it would be materially injured.

Each fish is taken by a man standing on one side of the table, who cuts its throat with a knife. He then pushes it to a second on his right hand called the *header*; this person, taking the fish in his left hand, draws the liver out, which he throws through one hole into a cask under the table, and the intestines through another which is over the sea, into which they drop. He next separates the head, by placing the fish against the edge of the table, which is constructed curved and sharp at this part for the purpose; and pressing on the head with the left hand, he with a violent and sudden wrench, detaches the body, which by the action is pushed to a third man opposite to him, the head falling through an opening in the stage into the water. The man who performs this feat sits in a chair with a stout back to enable him to use the necessary force; and his left hand is guarded with a strong leathern glove to give him a better hold.

The *splitter* cuts the body open from the neck downwards with rapidity, but with a skill acquired by practice; the value of the body depending on its being done in a particular way. The sound-bone is detached by the process, and is suffered to fall also into the sea, unless the sounds and tongues are intended to be saved for use, in which case the requisite number of them and of the heads are thrown aside, and removed, so as to offer no interruption to the main business.

* It is said, that when Newfoundland was first discovered (about 1500), the vine was a native production, and the Norwegians gave the name of *Winland* to the island from this circumstance. Whether this account be true or not, it is certain that that plant was formerly indigenous on many parts of the adjoining continent, where it cannot now bear the rigorous climate.

† A Cod of middling size has been ascertained to contain 9,384,000 eggs. The Cod is an ocean-fish, and only found in northern latitudes; they retire to the polar seas to breed, and appear to frequent Nova Scotia, Labrador, and Newfoundland, from the proximity of those countries to their favourite haunts, and from the abundance of the small molluscous animals which constitute their food.

When the barrow into which the split bodies are thrown is full, it is removed to the *salter* at the further end of the stage, who piles the fish in layers, spreading on each as he takes it out, a proper quantity of salt, which must be apportioned with accuracy and judgment, a deficiency or excess of it at this part of the process being detrimental to the proper curing.

It is the custom in some places, or by some fishermen, to place the split fish in vats or oblong square troughs, instead of in open piles. Each method has its advantages which need not be here particularized.

After remaining from four to six days in salt, the fish is washed in sea-water, in large wooden troughs, seven or eight feet long and three or four wide and deep, a quantity of the bodies being put in at a time, each is taken up singly and carefully cleaned with a woollen cloth, and then laid in long rows on the stage to drain for a day or two. When a sufficient quantity is thus prepared, it is spread to dry on stages, made either of wattles, supported on poles, or else of more substantial timber, the object being that the Cod should be thoroughly and equally exposed to a free circulation of air. Every evening, the fish is gathered into heaps of three or more, placed one on top of the other, the backs being uppermost, to guard against rain or damp during the night. These piles are increased as the fish become more dry; but during the day-time they are spread out on the *flakes*, or stage, separately. On the fifth evening, the night piles consist of from forty to fifty fish each, laid regularly, with a few at top, disposed like thatch, to throw off the rain; and when finally made up into stacks ready for shipment, tarpaulins and rind of trees, kept down by stones, is used for the same purpose. It is left in these stacks for a considerable time, being occasionally spread out again during fine weather; and as damp getting into the fish will spoil not only the one so wetted, but often the whole pile, great attention is paid to the weather while the fish is spread on the flakes; at the slightest signs of the approach of wet, they are all turned back uppermost, and, as sudden showers are frequent during the Summer season, the hurry and confusion of the time the fish is drying is indescribable. Even the Sabbath, during divine service, affords no respite if this source of danger is apprehended, for the whole fruits of a voyage may depend on the exertions of a few minutes:—the flakes are on such occasions surrounded with men, women, and children, turning the fish, or piling them up to shelter them from the coming rain.

The whole coasts of Labrador and Nova Scotia, as well as Newfoundland, are the scene of these fisheries, our own countrymen having retired from that of Newfoundland, which is now principally carried on by the French and Americans. Twenty thousand British subjects are annually employed, with from two to three hundred schooners, on the Labrador stations. About four-fifths of what we prepare is afterwards exported to the Catholic countries of Europe. A great quantity of Cod is imported *green*, that is, it is split and salted, but has not been dried at the stations.

Cod is also taken with large nets, called *Cod-seines*, thrown out about an hour before sunset, and visited again before daybreak to haul them in: the glut of fish is sometimes so great as to sink the buoys which float the net ropes.

When the fishing-stations are at a considerable distance from the shore, so that too long a period would elapse before the cargo could be salted in the regular manner, it is usual to perform this process on board, and boats laden with the fish thus partly prepared, are continually being despatched to the mainland, for them to undergo the subsequent processes of drying. These boats, as they arrive, are moored to an oblong square vessel made of planks, put loosely together, so that a current of sea-water is always flowing through them. This vessel, called a *Ram's-horn**, is fixed at the head of the stage. Three or four men stand in it to wash and scour the fish with mops as they are thrown singly out of the boat into the vessel; as fast as they are cleaned, one of the men throws the fish up on a scaffold half the height of the stage, and from thence others throw them on to the stage itself, where they are received into barrows, and removed to the flakes to dry.

The livers of the fish, it has been mentioned, are collected in casks, placed for the purpose under the table; these tubs are emptied, as fast as they are filled, into larger puncheons, which receive the full action of the sun's rays.

* Supposed to be a corruption of the French term *rinçoir* or *rinçoir*.

in about a week, the livers resolve into oil, which is drawn off by a tap at about half way between the top and bottom of the puncheon, so as to leave all the solid and dirty parts behind; the oil thus separated, is again further purified by a similar process, and being put into clean hogsheds, is exported as *train oil*, a name given to it on the spot, to distinguish it from whale, or seal oil, which is called *fat oil*. The refuse in the first puncheon, consisting of blood and dirt, is let out, and boiled in copper cauldrons, by which a further portion of inferior oil is obtained. This Cod oil is employed in dressing leather.

Besides Cod, Newfoundland and the adjacent coasts and rivers furnish abundance of salmon, herrings, capelins, plaice, sole, haddock, mackerel, halibut, &c. &c. The Capelin is a small species of the Salmon genus, and is an excellent fish; it resorts to Labrador and Newfoundland in shoals, rivalling in magnitude those of the herring; these generally arrive about the middle of June, and the fishery is carried on by two persons in each boat, which they easily fill in a couple of hours. They employ a cylindrical net, open at both ends, one of which is loaded with lead to sink it, and the other is gathered in by a running rope. The fisherman holds the rope in one hand, and the top of the net in his teeth, and spreading out the lower end with both hands, he drops it over a shoal of the fish,—the net is then quickly pulled in by both men, and being emptied of its contents, it is again cast: a load is thus frequently obtained without the necessity of moving from the spot.

As the Capelin, independent of its being an excellent article of food, is extensively used as a bait in the more important Cod fishery, immense numbers are annually taken; a few dried are imported into this country, and may be seen at our shell-fish shops.

STURGEON FISHERY.

THE river Volga, especially near its mouth, is the principal scene of this fishery. When the fish enter the river, which they do, like many others, at stated seasons, for the purpose of depositing their spawn, large enclosures of strong stakes are set across the river to intercept and prevent its return; the enclosures narrow up the river, and the animal, getting into these confined places, is easily speared.

This fish (*Accipenser sturio*), of which there are several species, breeds in the Caspian Sea, in such numbers as to fill the rivers flowing into that lake. Fifteen thousand Sturgeons are sometimes taken in one day, with the hook, at the station of Sallian, on the Persian coast, and upwards of 700,000 were taken in the year 1829, in the Russian dominions on the coasts of the Caspian.

The flesh of the Sturgeon is salted and dried for consumption during the numerous fasts enjoined by the Greek Church, but the two products the most valuable, are isinglass and *caviare*. The former is prepared from the air-bladder, and large quantities of it are annually imported into England from St. Petersburg. *Caviare* is a preparation from the roe, of a strong, oily, but agreeable flavour, and is increasing in estimation here, if we may judge by the increased importation of it; a great deal is also consumed in Italy.

PAST—PRESENT—FUTURE.

THE time when I played with the king-cup flowers,
Those golden gifts of summer hours;
The time when I danced o'er the purple heath,
And scarcely felt the earth beneath,
And, smiling, looked to the sky above,
That spread o'er me in cloudless love;
When my step was as light as the roving wind,
That kissed the flowers in my tresses twined;
When my eyes, undimmed by a dark tear, shone.
That blessed time is gone, is gone!

The time when I loved to sit at noon,
And hearken to the woodbird's tune;
When the flowers and leaves upon each tree,
Were more than flowers and leaves to me;
When my spirit in fancy floated along,
And around my heart was a dream of song;
The time when I lay by the river's side,
That had words for me in its murmuring tide;
When my life, like the waves of the stream, went on,
Bright, pure, and sparkling, is gone, is gone!

And the hours of darkness and days of gloom,
That shadow and shut out joy are come;
And there's a mist on the laughing sea,
And the flowers and leaves are nought to me;
And on my brow are furrows left,
And my lip of ease and smile is left,
And the time of gray hairs and trembling limbs,
And the time when sorrow the bright eye dims,
And the time when death seems nought to fear,
So sad is life,—is here, is here!

But the time when the quiet grave shall be
A haven, a resting-place for me;
When the strong ties of earth are wrenched,
And the burning fever of life is quenched;
When the spirit shall leave its mortal mould,
And face to face its God behold;
When around it joy and gladness shall flow,
Purer than ever it felt below;
When heaven shall be for ever its home,—
Oh! this holiest time is still to come!

M. A. BROWNE.

MOVING MODEL OF A SHIP AND SEA.

THERE are now to be seen in several of the London exhibition-rooms, and also at a few of the best shops for the sale of articles of this description, some beautiful automatic toys, in which the power of delicately-constructed clock-work has been applied to the production of movements and effects truly astonishing. Among these may be named, a group, called the Persian Rope-dancer, of which we will hereafter give some account; for the present, we borrow from the *Magazine of Popular Science*, for the present month, a description of a SHIP AND SEA, in which the machinery whereby the effects are produced is delineated and explained. The specimen described is of foreign manufacture, and has lately been added to the interesting exhibition of works of art at the Gallery of Practical Science in Adelaide Street, West Strand.

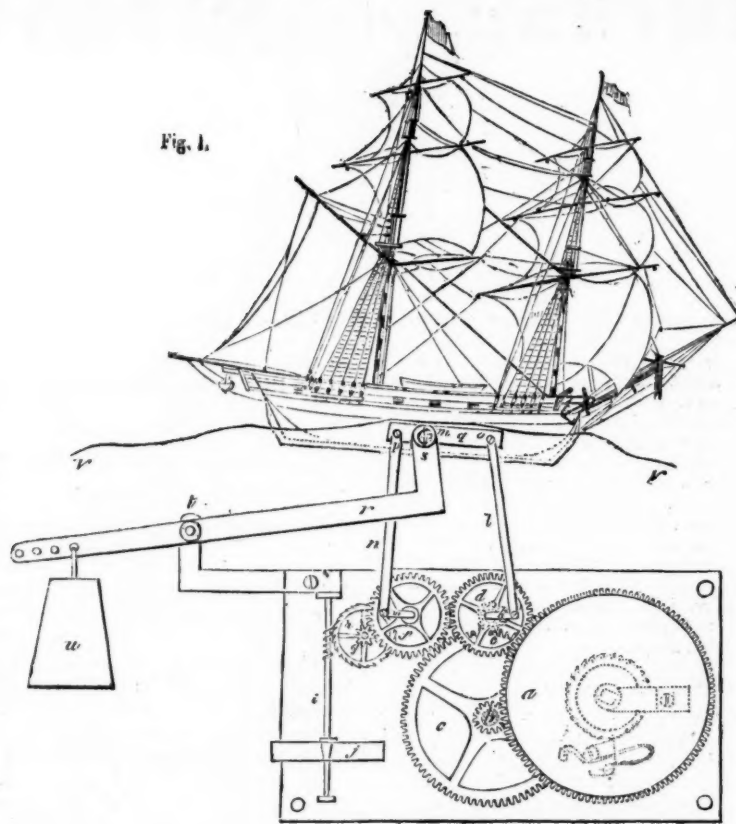
To those of our readers who may not have seen this automaton*, we must premise that it is one of the most successful attempts at imitative motion ever accomplished. It is perfectly free from all those interrupted *staccato* effects which generally mar the finest productions in clock-work; and it most faithfully exhibits the easy, ever-varying, and ever-blending changes of position and surface, which a steady stiff breeze will produce on a flowing sea, and a vessel under full sail. It is surprising to see how accurately two of the most magnificent instances of nature and art are embodied, and their peculiar movements enacted on so small a stage—a field of ocean heaving with life, and a man-of-war floating, sailing, and even vibrating with the roll of the waves beneath her; all enclosed by a glass-guard, and an oval of a few hands area.

The sympathy, if we may so term it, of the ship with the sea, is admirable; when she seems to overtake a wave, her bow slides up its side, and is projected into the air; when she rides on its breast, her stern also seems elevated, and her deck is for an instant horizontal; and then, as she leaves it, her bow becomes depressed, and she sinks down into the succeeding hollow. This last effect is so perfect, that a lady, visiting the gallery, was heard to exclaim to her companion, '*Do come away; that subsidence is really so natural, that it brings all my recollections of sea-sickness about me.*'

To give an idea of the actual size of our vessel, we may state that, from stem to stern, she measures five inches and a half, so that she appears to be not much larger than her portrait in the annexed diagram.

Though the effects are so perfect, yet the mechanism, it will be evident, is very simple. It is concealed in the model from the observer, by a membrane (*a*), which is attached to the hull, and thence extending to the borders of machinery-chest, is there fastened. This membrane is very delicate in its texture, and extremely pliant; is not strained tight, but, on the contrary, left very full; and its surface is painted to represent an agitated sea. In all the

* A machine that has the power of motion within itself.



AN AUTOMATON SHIP.

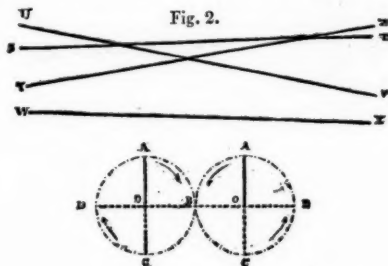
elevations and depressions of the vessel, this membrane of course accompanies it; but to the spectator, the motions of the vessel seem to be the effect, and not the cause, of the waves.

In the diagram (fig. 1), one of the containing plates of the machinery is removed, to show the connexion of the parts. A spring contained in a barrel (a), communicates motion through a train of pinions and wheels (b, c, d), to two wheels (e, f), which have each the same number of teeth, and are geared together; on the axis of these wheels are cranks (m, k), which move two shafts (l, n), attached by centre-pins (o, p), to the keel (q) of the vessel. To this keel is also attached, by a centre-pin (s), a lever (r), which, resting on a fulcrum (t), is continued beyond to any convenient length, and has, near its end, a moveable weight attached (u). One of the cranked wheels (f) is geared by a pinion and wheel (g, h), and an endless screw (i), with a fly (j), for regulating the velocity.

Supposing the lever (r) to be removed, the cranks and the shafts (m k) (l n) vertical, and the machinery in action; it will be seen, by examination, that motion would be communicated to the vessel, but that this would be simply vertical—a mere up-and-down movement—and that the deck would always be parallel to the line in which it lay at starting. If we add the lever (r), centring it midway between the centre-pins of the shafts (o p), a very small, but scarcely a perceptible variation, would be produced; but if now we place its centre-pin (s) nearer to the centre-pin (p) of one of the shafts, than to that (o) of the other, we shall have the motions of the centre-pins so controlled by the radius (s t), that they move, both ascending and descending, with different and differing velocities; so that the stem and stern of the ship will rarely remain for two successive instants in the same level plane.

In the following diagram (fig. 2), are shown the positions of the deck, which correspond to four successive and simultaneous positions of the cranks.

The arrows indicate the direction in which the cranks turn round.



When the cranks stand at o A, the deck will be in the position s r; as the cranks move to the position o B, s will ascend to u, and r descend to v, and the deck will arrive at u v; during the change of the cranks to o C, u will descend to w, v to x, and the deck will attain w x; let the cranks go on to o D, w will now ascend to y, and x to z, y z becoming the position of the deck; as the cranks go on to the starting positions o A, y will ascend to s, and z descend to r, the deck ascending to s r, the position whence it set out. It may therefore be seen, that in each interval of time, the motions of the stem and of the stern are different, one of them being always greater than the other, and that at two points in the course, the one which was the greater becomes the lesser, and *vice versa*. It is the ingenious introduction of the lever (r) into its peculiar position, with regard to the shaft centre-pins (s p), that this play of changes takes place, and the pitching of a ship in a brisk gale and high-running sea is so beautifully imitated. By the weight (u) this pitching can be made quicker or slower, at pleasure.